

This is a repository copy of *Home-based rehabilitation for heart failure: we need to act now*.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/143798/>

Version: Accepted Version

---

**Article:**

Dalal, Hasnain M, Taylor, Rod S. and Doherty, Patrick Joseph orcid.org/0000-0002-1887-0237 (2019) Home-based rehabilitation for heart failure: we need to act now. European journal of preventive cardiology. ISSN 2047-4881

<https://doi.org/10.1177/2047487319836515>

---

**Reuse**

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

**Takedown**

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing [eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk) including the URL of the record and the reason for the withdrawal request.

# Home-based rehabilitation for heart failure: we need to act now

Hasnain M Dalal<sup>1,2</sup>, Rod S Taylor<sup>1,3</sup> and Patrick Doherty<sup>4</sup>

We thank Professor Zwisler for her positive endorsement editorial on our REACH–HF multicentre randomised trial published in the journal recently.<sup>1</sup> We feel privileged to be considered as ‘a candidate for one of the most important methodological landmark studies in cardiac rehabilitation’.<sup>2</sup> However, in response to the conclusion that ‘...there are still more questions to be answered before a standard home-based rehabilitation intervention can be recommended for implementation in clinical practice’,<sup>2</sup> we want to share in this letter two recent important pieces of available evidence that mean we need to act now.

First, this journal has recently accepted our cost effectiveness modelling analysis that provides evidence that REACH–HF is not only clinically effective in improving health-related quality of life but also provides good value for money and confirms the long-term cost effectiveness of home-based cardiac rehabilitation (CR) programmes like REACH–HF. Our analysis indicates that REACH–HF has an average cost per quality adjusted life year gained (QALY) of £1720 with a 78% probability of being cost effective at the UK accepted threshold of £20,000/QALY gained.<sup>3</sup>

Second, the updated Cochrane systematic review and meta-analysis of exercise-based rehabilitation for heart failure has recently been published<sup>4</sup> utilising 44 randomised trials (5783 heart failure patients) confirming improvements in health-related quality of life and a reduction in the risk of hospitalisation. Importantly, nearly a quarter of studies included in the Cochrane systematic review were based on a home-based mode of delivery.<sup>4</sup>

In the UK, less than 20% of patients discharged from hospital after a diagnosis of heart failure are referred for CR, and in those that do have a referral there is a 6% better mortality outcome at 12 months.<sup>5</sup> The lack of implementation has prompted the National Institute for Health and Care Excellence (NICE) to recommend ‘a personalised, exercise-based CR programme – in a format and setting (at home, in the community or in the hospital) that is easily accessible’.<sup>6</sup>

We need to act now. Commissioners and providers in the UK and elsewhere should be looking at

alternatives to conventional, supervised, centre-based rehabilitation including CR options supported by telemedicine.<sup>7</sup> Affordable home-based programmes like REACH–HF can make CR more available and should be included as part of the CR offer, especially as this is supported by evidence of cost effectiveness.

## Declaration of conflicting interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: All authors report grants from the UK National Institute for Health Research (NIHR) during the course of the REACH–HF randomised trial. There are no other declared potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## References

1. Dalal HM, Taylor RS, Jolly K, et al. The effects and costs of home-based rehabilitation for heart failure with reduced ejection fraction: the REACH–HF multicentre randomised controlled trial. *Eur J Prev Cardiol*, Epub ahead of print 10 October 2018. DOI: [org/10.1177/2047487318806358](https://doi.org/10.1177/2047487318806358).
2. Olsen Zwisler AD. Home-based rehabilitation interventions aimed at congestive heart failure: are we there yet? *Eur J Prev Cardiol*, Epub ahead of print 30 November 2018. DOI: [org/10.1177/2047487318816783](https://doi.org/10.1177/2047487318816783).
3. Taylor RS, Sadler S, Dalal HM, et al. The cost effectiveness of REACH–HF and home-based cardiac rehabilitation in the treatment of heart failure with reduced ejection fraction: a decision model-based analysis. *Eur J Prev Cardiol* 2019; ■■ [AQ2].

<sup>1</sup>Institute of Health Research, University of Exeter Medical School, UK

<sup>2</sup>Royal Cornwall Hospitals NHS Trust, UK

<sup>3</sup>Institute of Health and Well Being, University of Glasgow, UK

<sup>4</sup>Department of Health Sciences, University of York, UK

## Corresponding author:

Hasnain Dalal, University of Exeter, Exeter EX1 2LU, UK.

Email: [h.dalal@nhs.net](mailto:h.dalal@nhs.net)

4. Long L, Mordi IR, Bridges C, et al. Exercise-based cardiac rehabilitation for adults with heart failure. *Cochrane Database Syst Rev* 2019; ■■doi.org/10.1002/14651858.CD003331.pub5 **AQ1**.
5. National Heart Failure Audit 2016/17 Summary Report. *National Cardiac Audit Programme (NCAP)*. www.nicor.org.uk/wp-content/uploads/2018/11/Heart-Failure-Summary-Report-2016-17.pdf (accessed 23 February 2019).
6. National Institute for Health and Care Excellence (NICE). *Chronic heart failure in adults: diagnosis and management*. NG 106. Full guideline. September 2018. www.nice.org.uk/guidance/ng106/chapter/Recommendations#cardiac-rehabilitation (accessed 23 February 2019).
7. Kraal JJ, Van den Akker-Van Marle ME, Abu-Hanna A, et al. Clinical and cost effectiveness of home-based cardiac rehabilitation compared to conventional, centre based cardiac rehabilitation: results of the FIT@Home study. *Eur J Prev Cardiol* 2017; 24: 1260–1273.